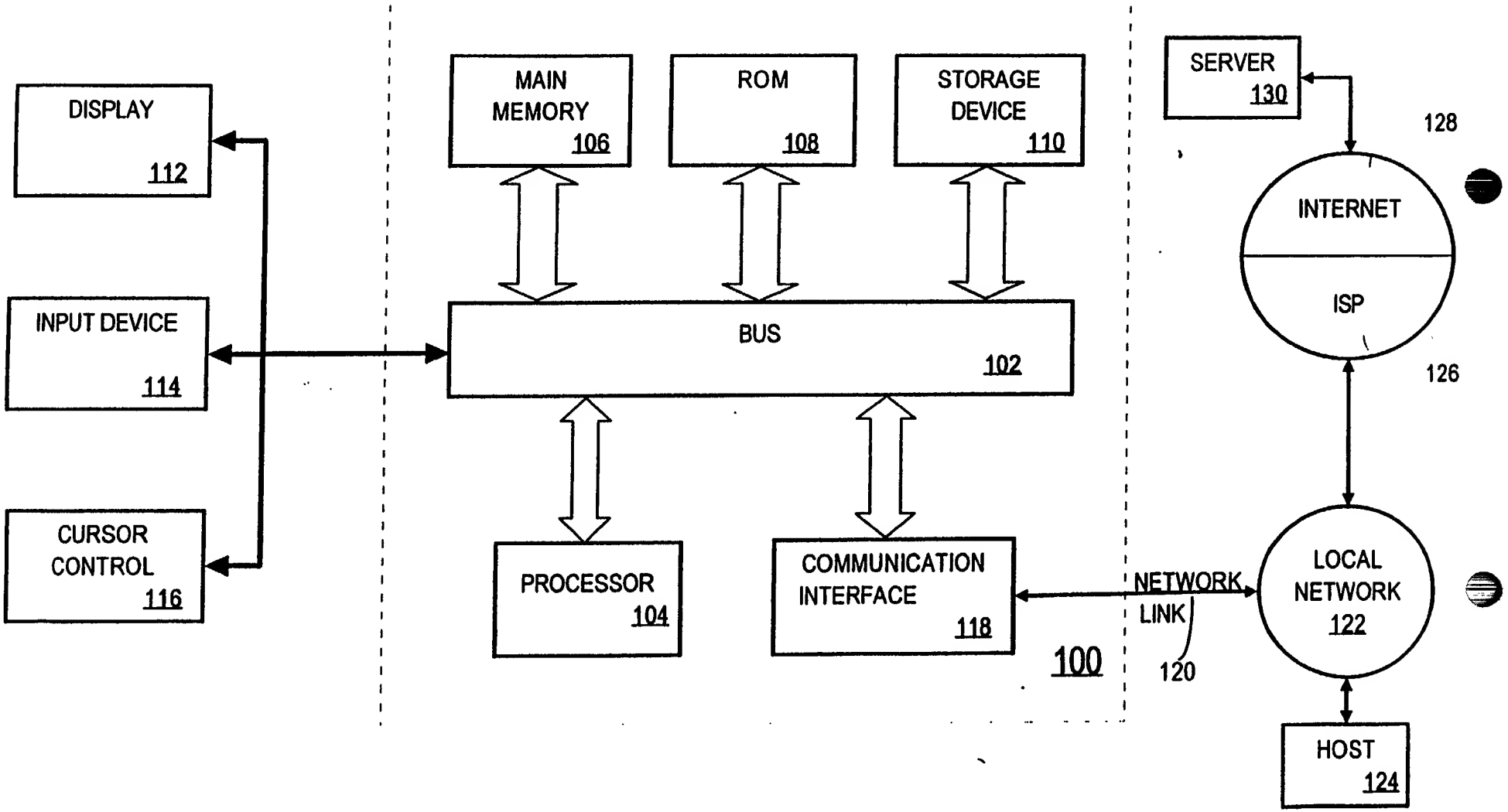

DISPLAY
112
INPUT DEVICE
114
CURSOR
CONTROL
116
MAIN
MEMORY
106
ROM
108
STORAGE
DEVICE
110
BUS
102
PROCESSOR
104
COMMUNICATION
INTERFACE
118
100
NETWORK
LINK
120
SERVER
130
128
INTERNET
ISP
126
LOCAL
NETWORK
122
HOST
124

FIG. 1

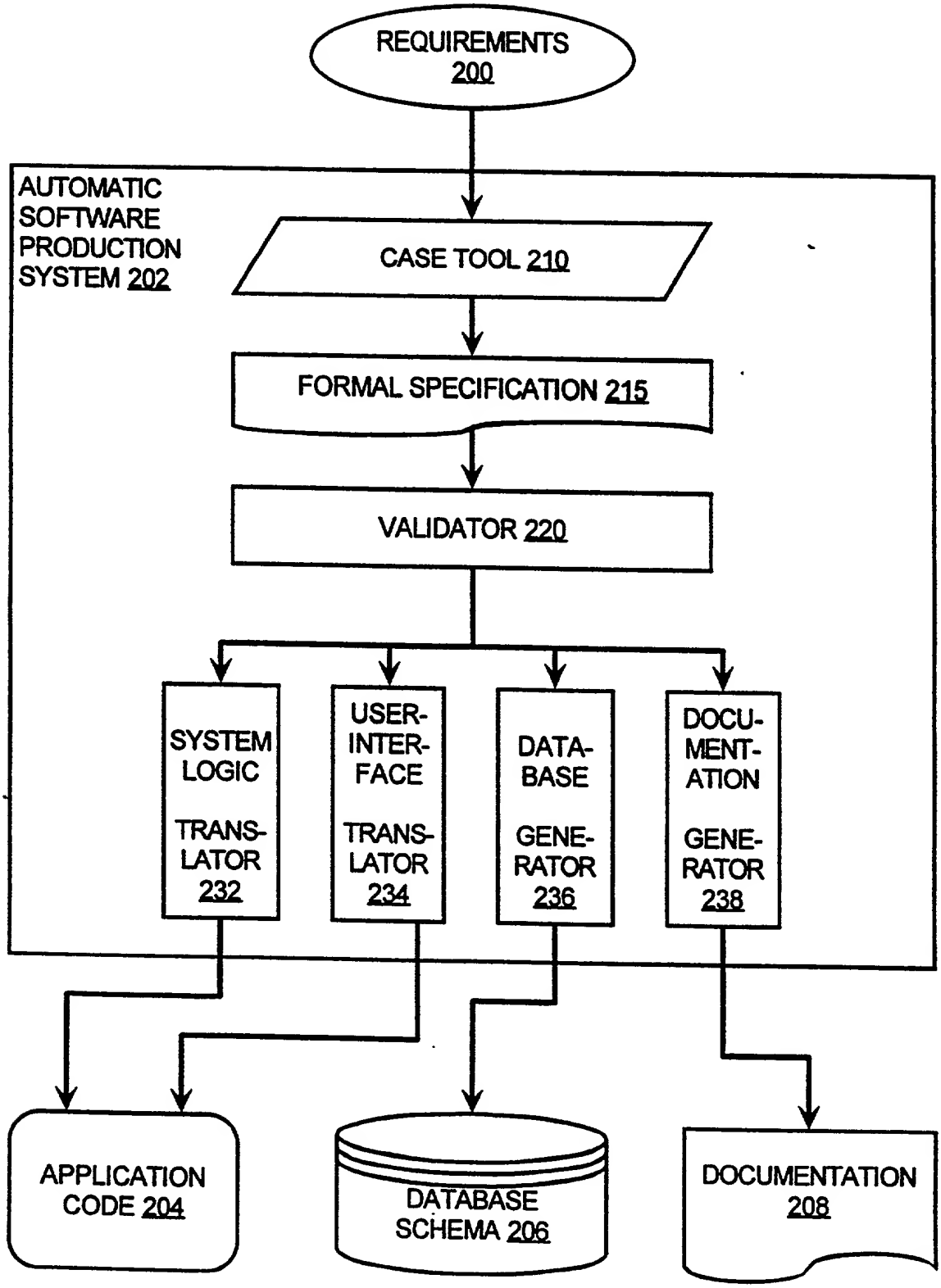

REQUIREMENTS
200
AUTOMATIC
SOFTWARE
PRODUCTION
SYSTEM 202
CASE TOOL 210
FORMAL SPECIFICATION 215
VALIDATOR 220
SYSTEM
LOGIC
TRANS-
LATOR
232
USER-
INTER-
FACE
TRANS-
LATOR
234
DATA-
BASE
GENE-
RATOR
236
DOCU-
MENT-
ATION
GENE-
RATOR
238
APPLICATION
CODE 204
DATABASE
SCHEMA 206
DOCUMENTATION
208

FIG. 2

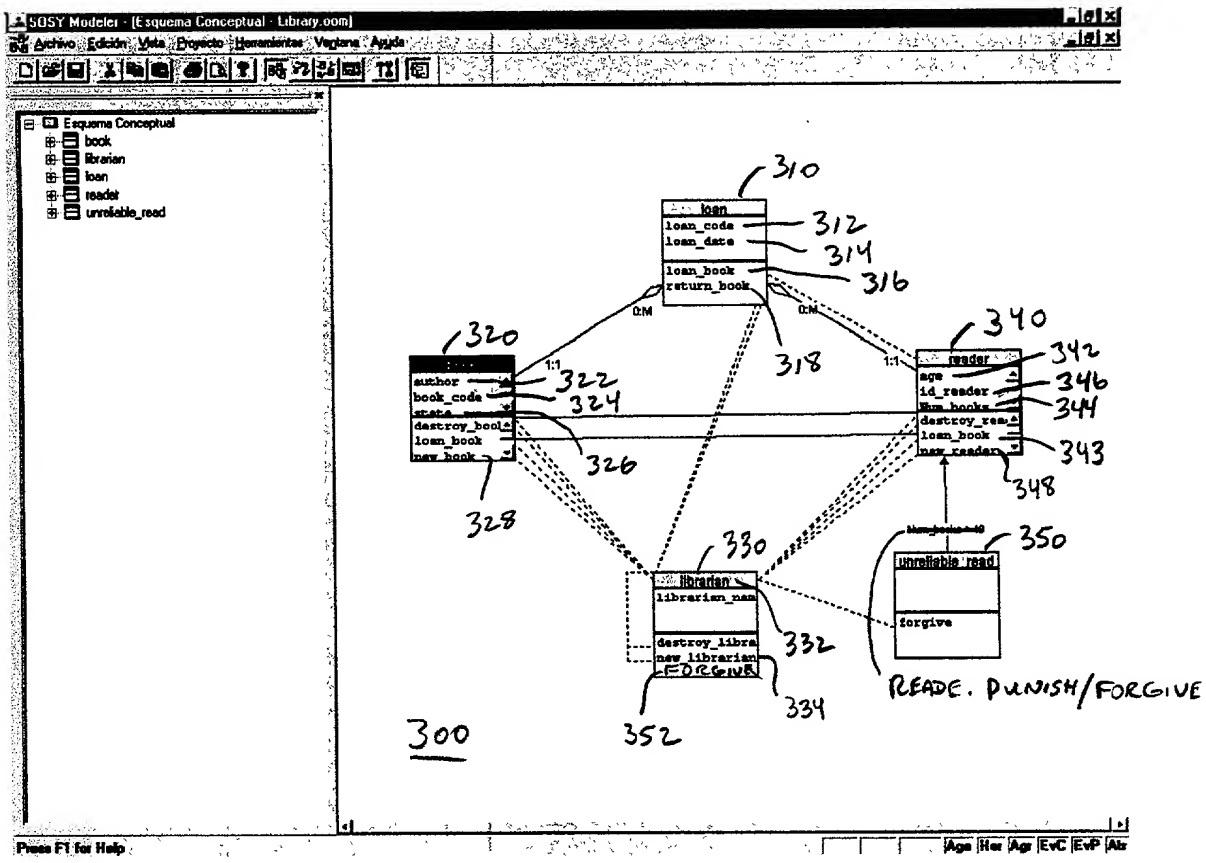

GOSY Modeler - [Esquema Conceptual - Library.oom]
Archivo Edición Vista Proyecto Herramientas Ventana Ayuda
Esquema Conceptual
book
librarian
loan
reader
unreliable_read
loan
loan_code
loan_date
loan_book
return_book
0:M
1:1
author
book_code
state
destroy_book
loan_book
new_book
reader
age
id_reader
destroy_rea
loan_book
new_reader
librarian
librarian_nam
destroy_libra
new_librarian
FORGIVE
unreliable_read
forgive
READE. PUNISH/FORGIVE
310
312
314
316
318
320
322
324
326
328
330
332
334
340
342
344
346
348
350
352
300
Press F1 for Help
Age Her Agr EvC EvP Als

FIG. 3

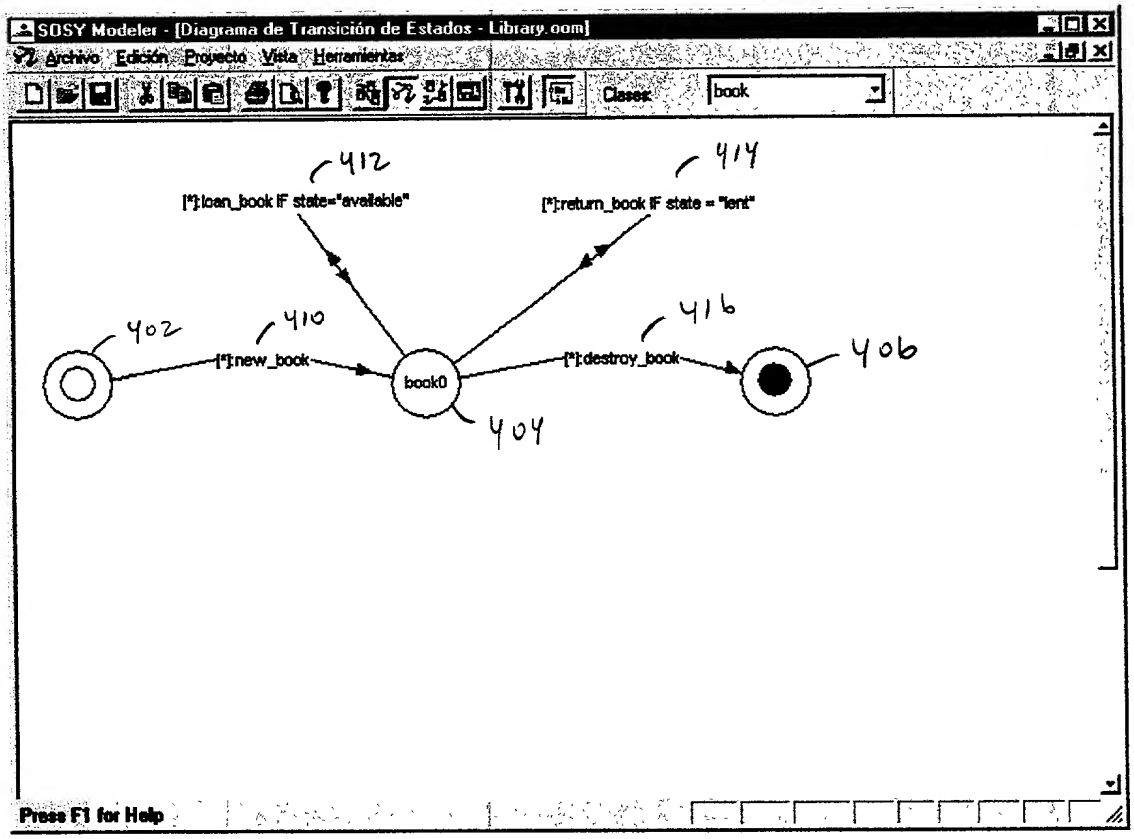

SOSY Modeler - [Diagrama de Transición de Estados - Library.oom]
Archivo Edición Proyecto Vista Herramientas
Clases
book
412
[*]:loan_book IF state="available"
414
[*]:return_book IF state = "lent"
402
410
[*]:new_book
book0
404
416
[*]:destroy_book
406
Press F1 for Help

FIG. 4A

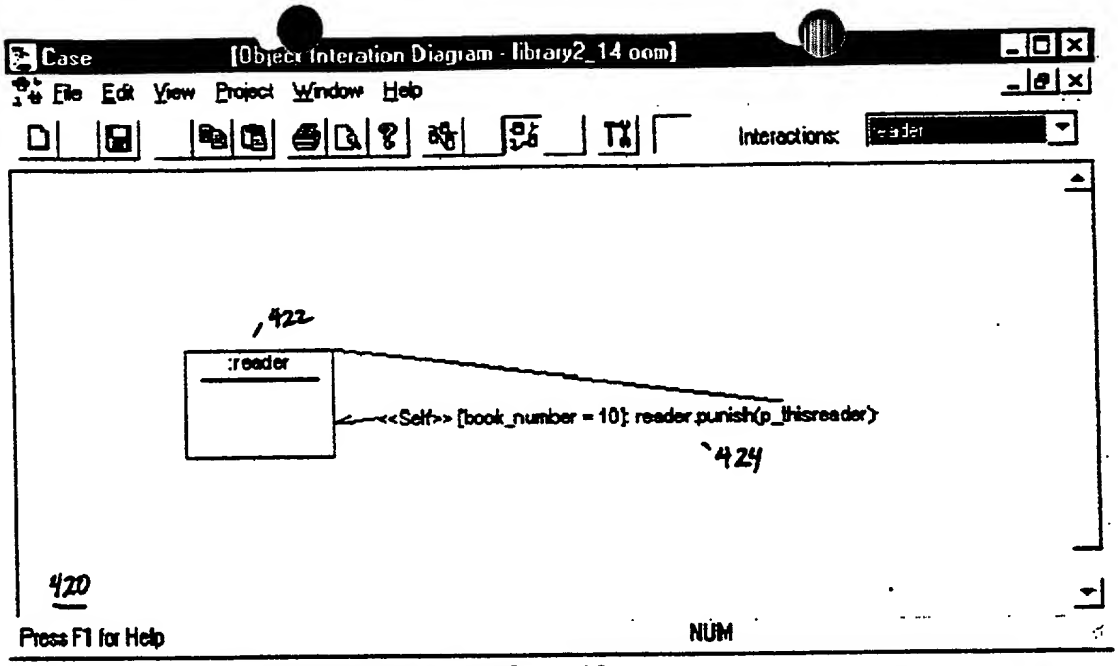

Case
[Object Interation Diagram - library2_14 oom]
File Edit View Project Window Help
Interactions:
reader
422
:reader
<<Self>> [book_number = 10]: reader.punish(p_thisreader)
424
420
Press F1 for Help
NUM

FIG. 4B

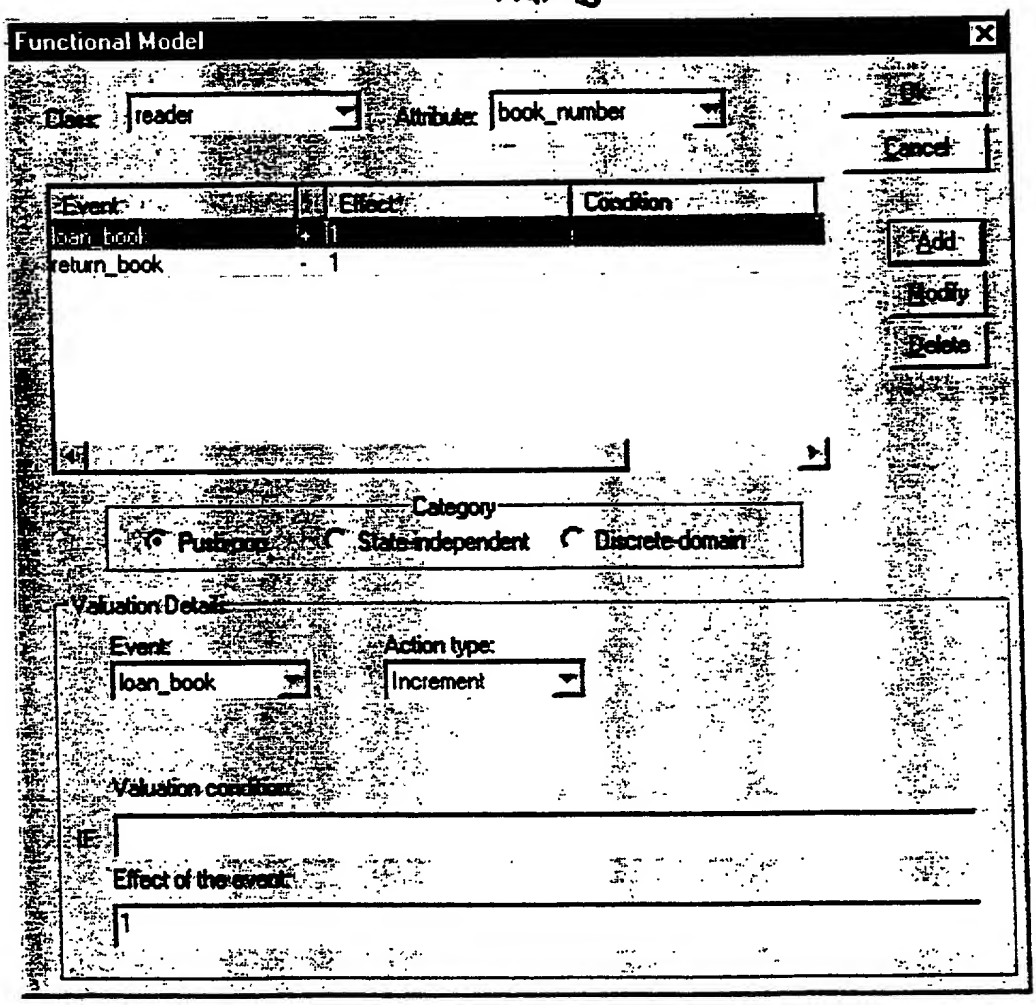

Functional Model
Class: reader
Attribute: book_number
OK
Cancel
Event
Effect
Condition
loan_book + 1
return_book - 1
Add
Modify
Delete
Category
Postpone
State-independent
Discrete-domain
Valuation Details
Event:
loan_book
Action type:
Increment
Valuation condition:
IF
Effect of the event:
1

FIG. 5

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES OF SYSTEM LOGIC TRANSLATORS WILL PERFORM

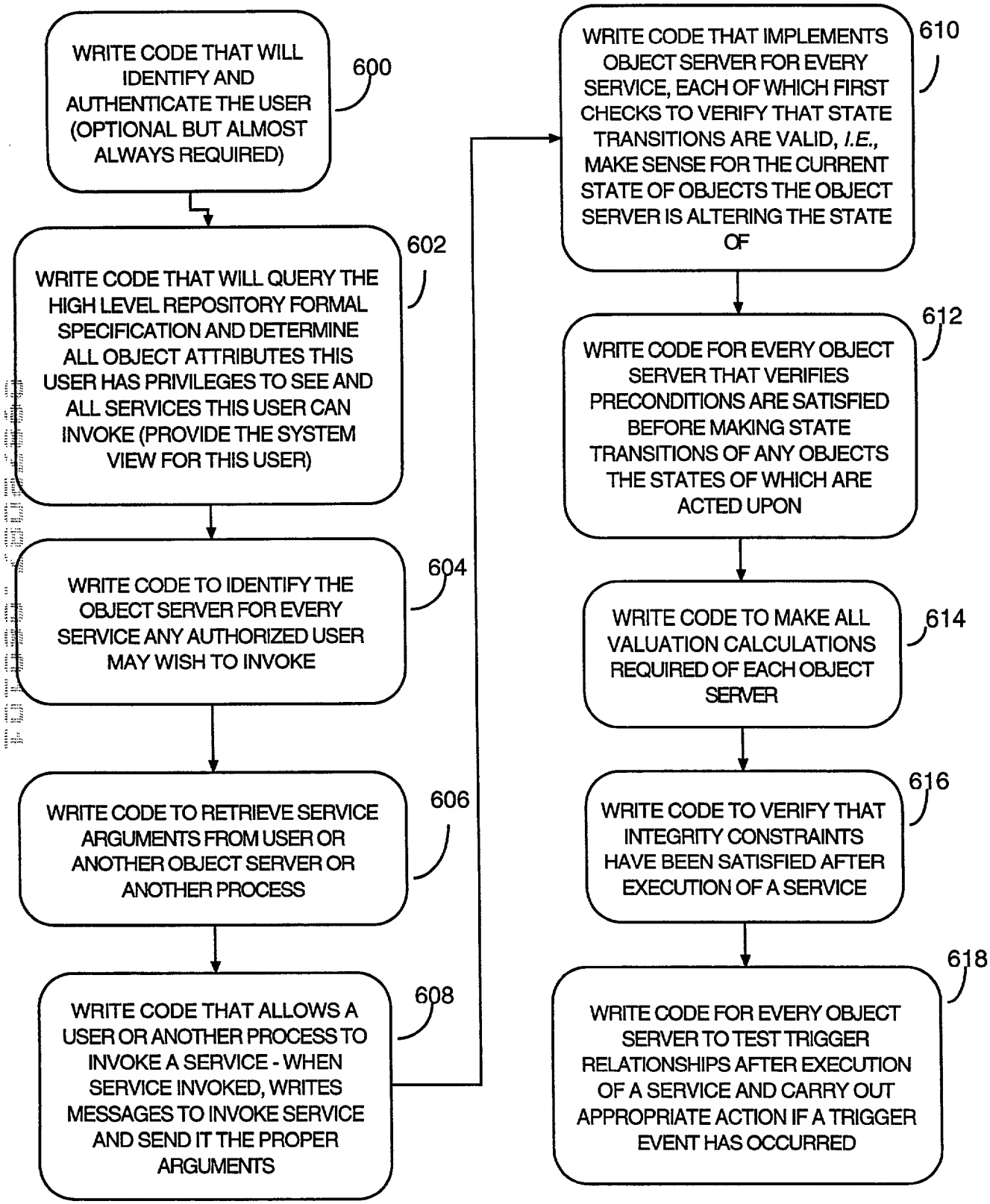


FIG. 6

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES IN THE USER INTERFACE TRANSLATOR SUBGENUS WILL PERFORM

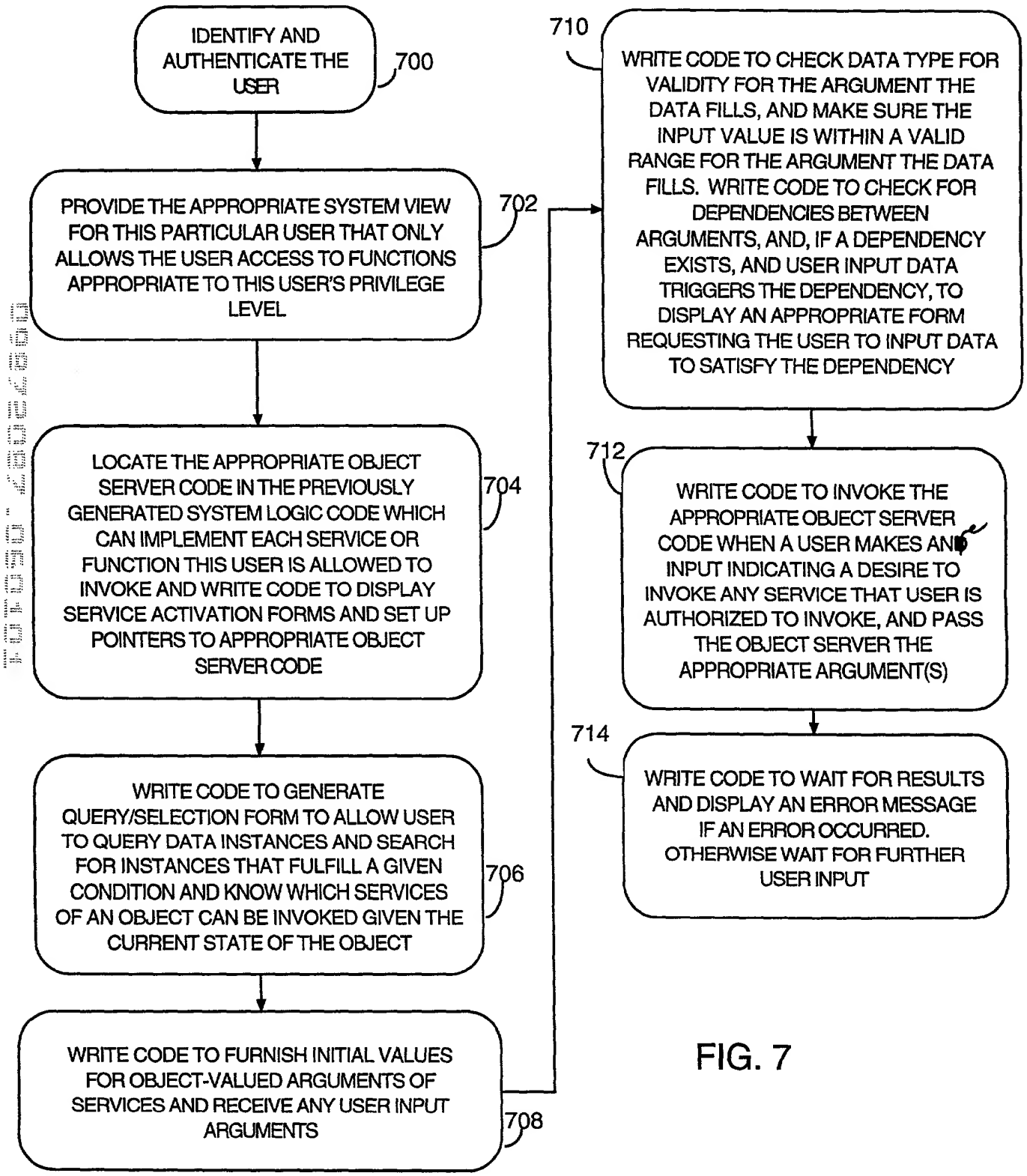


FIG. 7

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES IN THE DATABASE GENERATOR TRANSLATOR SUBGENUS WILL PERFORM

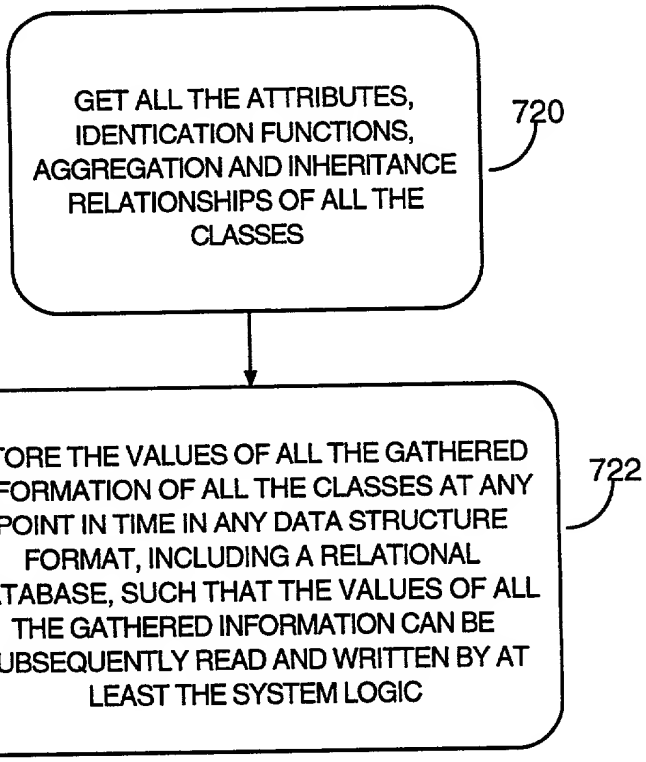
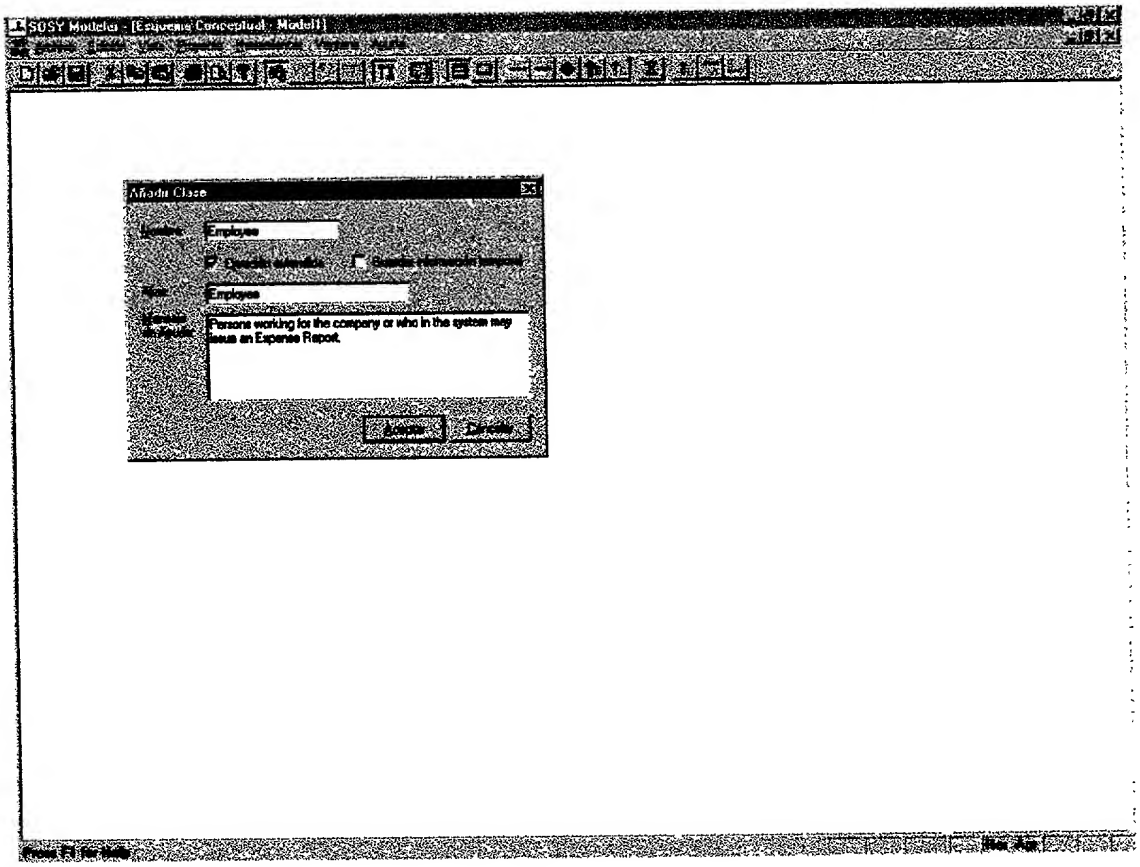
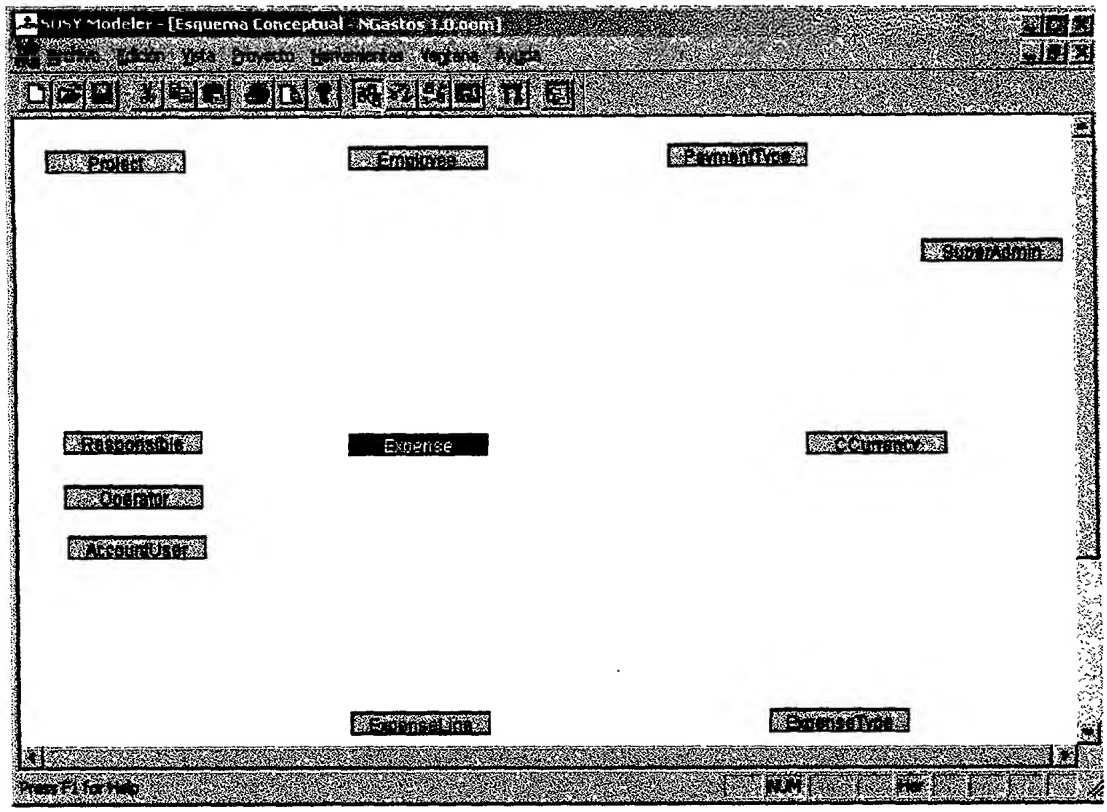


FIG. 8



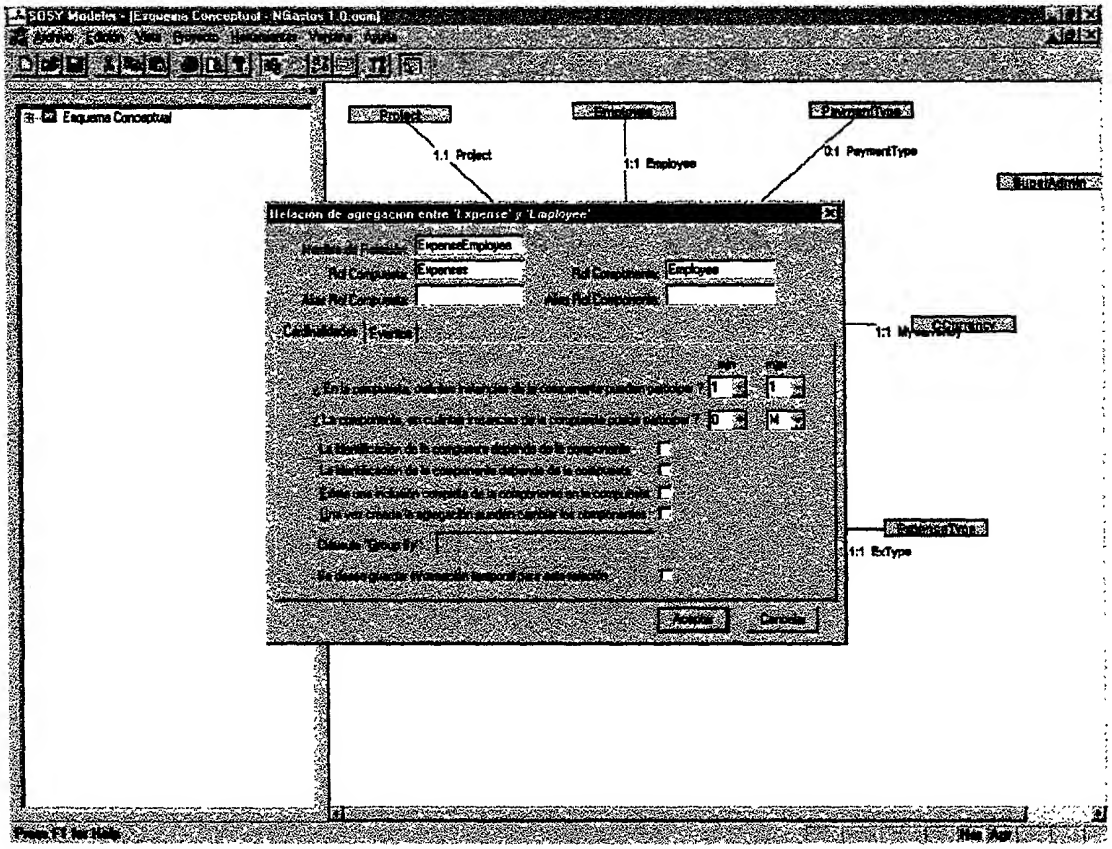
class creation dialog

FIG. 9A



DIALOG SHOWING ALL CLASSES NEEDED & CREATED IN EXPENSE MANAGEMENT SYSTEM

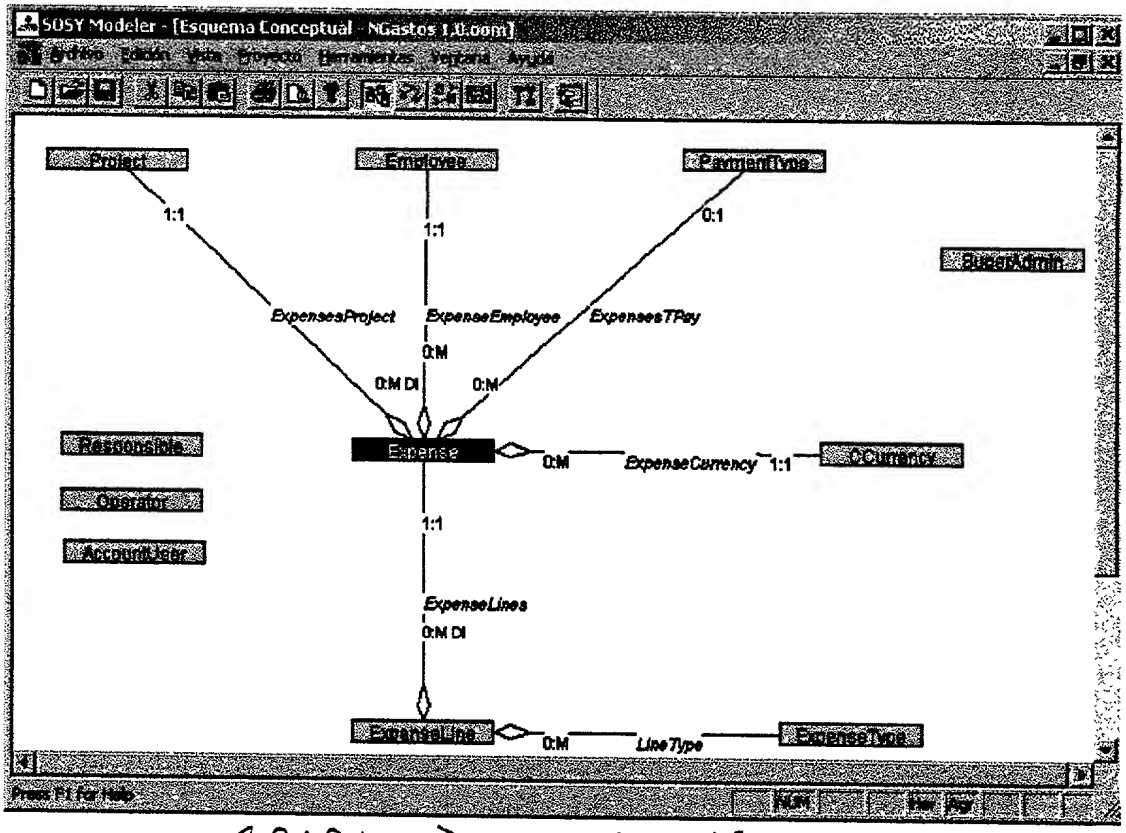
FIG. 9B



dialog to create and modify relationships between classes

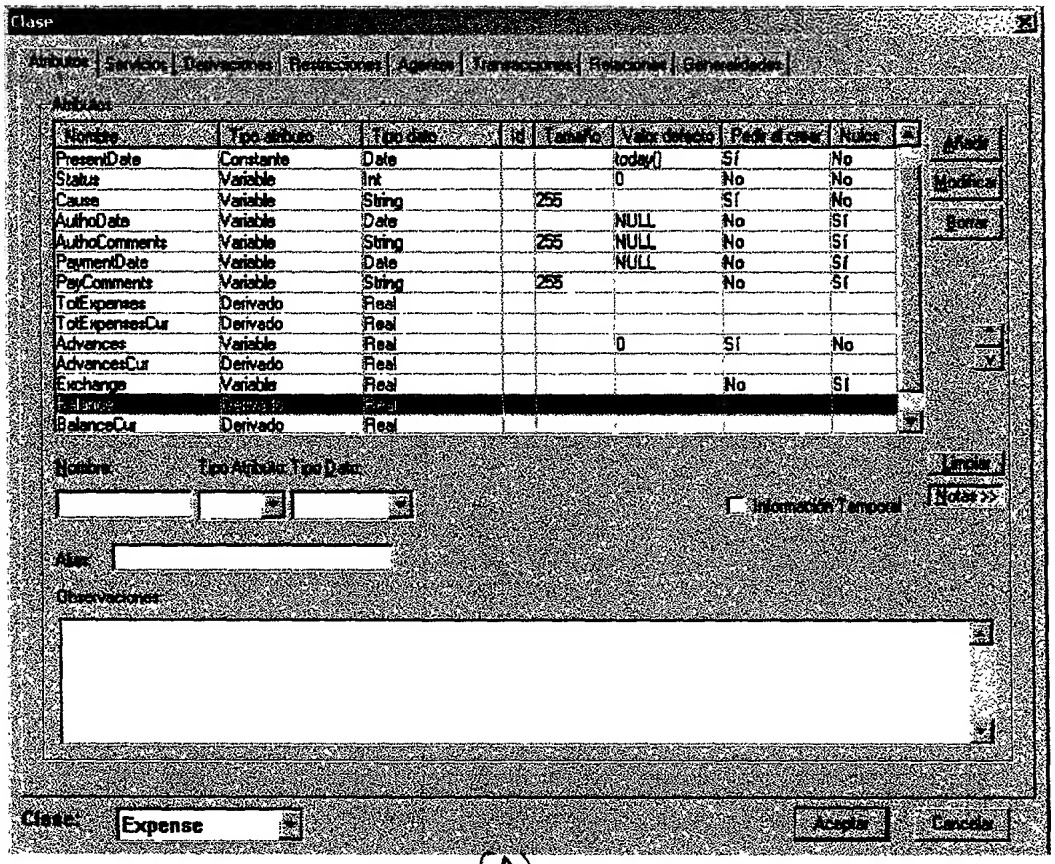
FIG. 9C

figure shows relationships found with all their properties indicated.

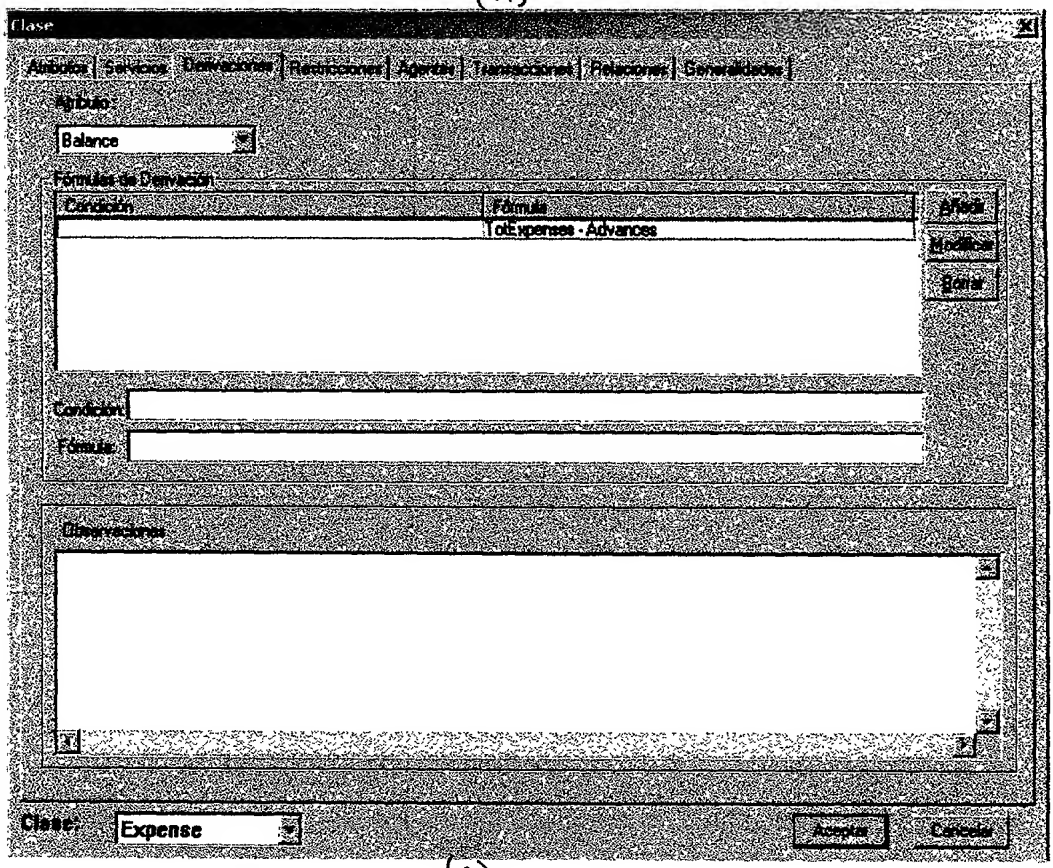


GRAPHIC DIALOG TO CREATE RELATIONSHIPS BETWEEN CLASSES AND GRAPHICALLY SHOW THE RELATIONSHIPS SO CREATED

FIG. 10

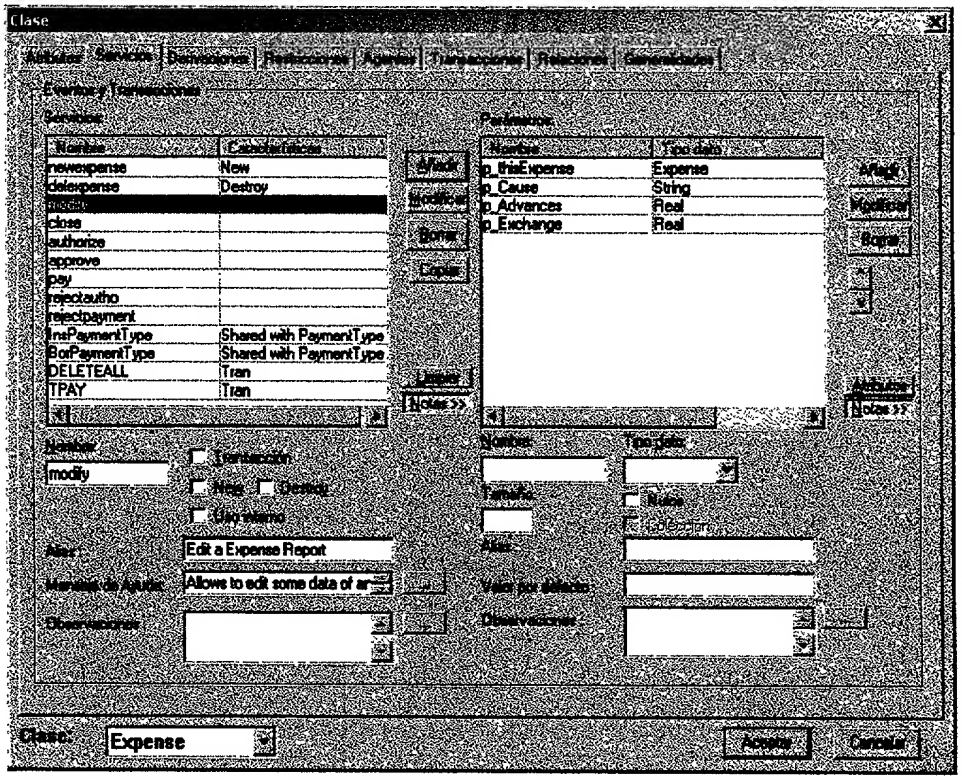

Clase
Atributos | Servicios | Derivaciones | Restricciones | Agentes | Transacciones | Relaciones | Generalidades
Atributos
Nombre | Tipo atributo | Tipo dato | Id | Tamaño | Valor defecto | Pedir al crear | Nulos
PresentDate | Constante | Date | today() | Sí | No
Status | Variable | Int | 0 | No | No
Cause | Variable | String | 255 | Sí | No
AuthoDate | Variable | Date | NULL | No | Sí
AuthoComments | Variable | String | 255 | NULL | No | Sí
PaymentDate | Variable | Date | NULL | No | Sí
PayComments | Variable | String | 255 | No | Sí
TotExpenses | Derivado | Real
TotExpensesCur | Derivado | Real
Advances | Variable | Real | 0 | Sí | No
AdvancesCur | Derivado | Real
Exchange | Variable | Real | No | Sí
Balance | Derivado | Real
BalanceCur | Derivado | Real
Añade
Modifica
Borra
Nombre:
Tipo Atributo:
Tipo Dato:
Información Temporal
Limpia
Notas >>
Alias:
Observaciones:
Clase:
Expense
Acepta
Cancela

(A)


Clase
Atributos | Servicios | Derivaciones | Restricciones | Agentes | Transacciones | Relaciones | Generalidades
Atributo:
Balance
Fórmulas de Derivación
Condición | Fórmula
TotExpenses - Advances
Añade
Modifica
Borra
Condición:
Fórmula:
Observaciones:
Clase:
Expense
Acepta
Cancela

(B)

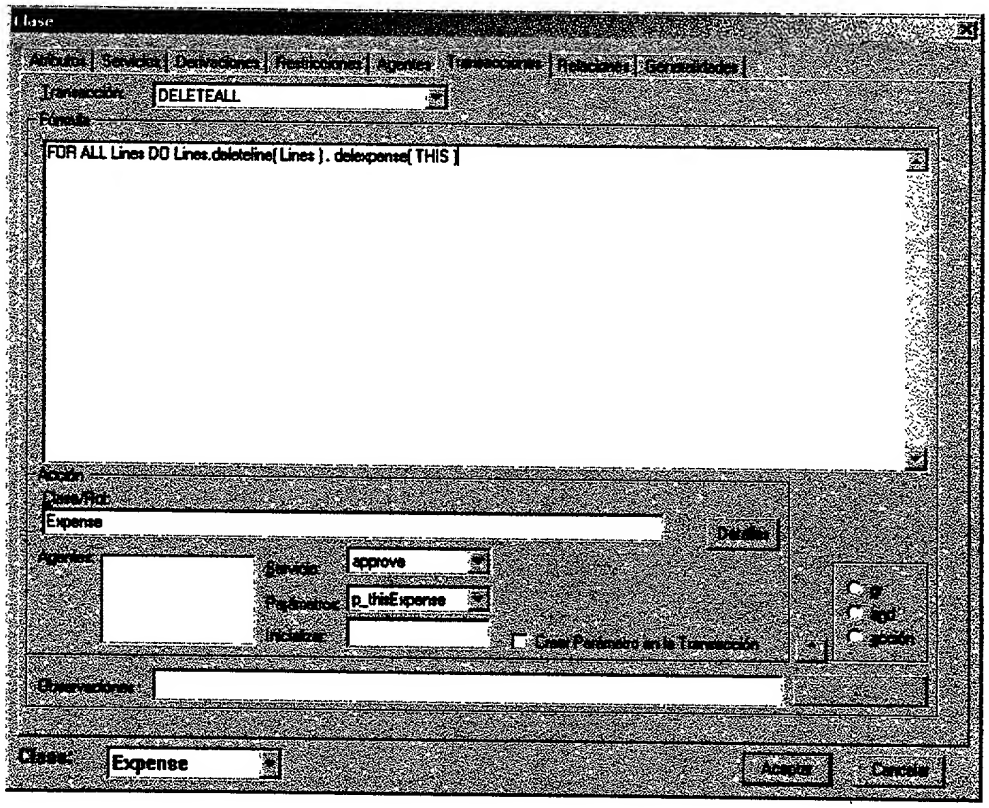
FIG. 11



SERVICES OF CLASS "EXPENSE"

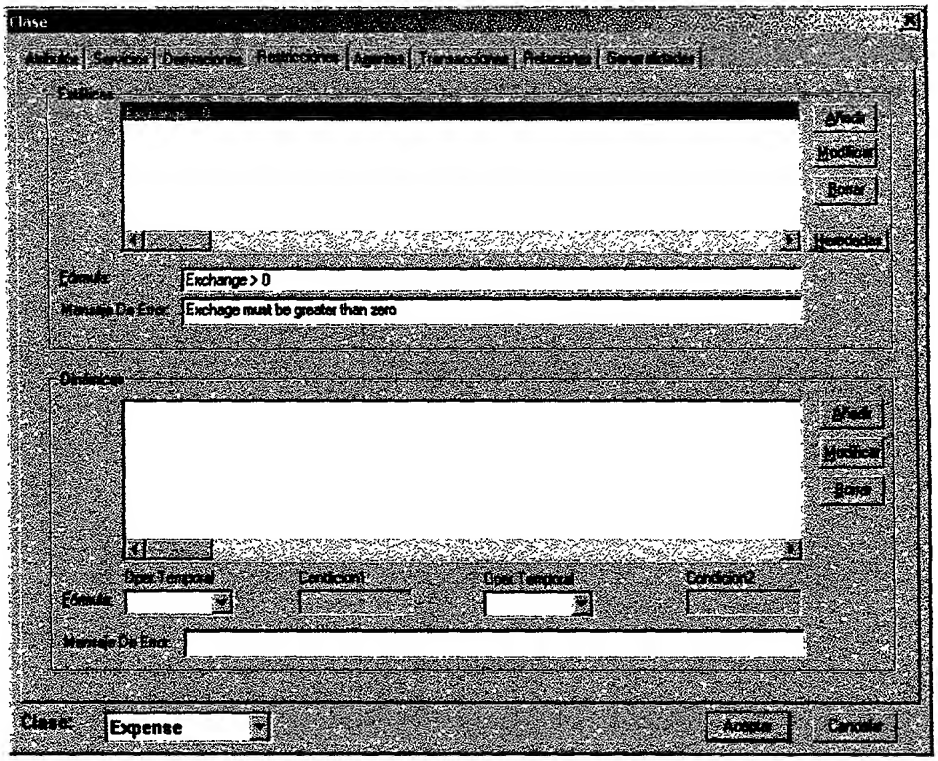
FIG. 12

Next figure shows the formula for the "DELETEALL" transaction:



DIALOG TO DEFINE FORMULA FOR "DELETEALL" TRANSACTION

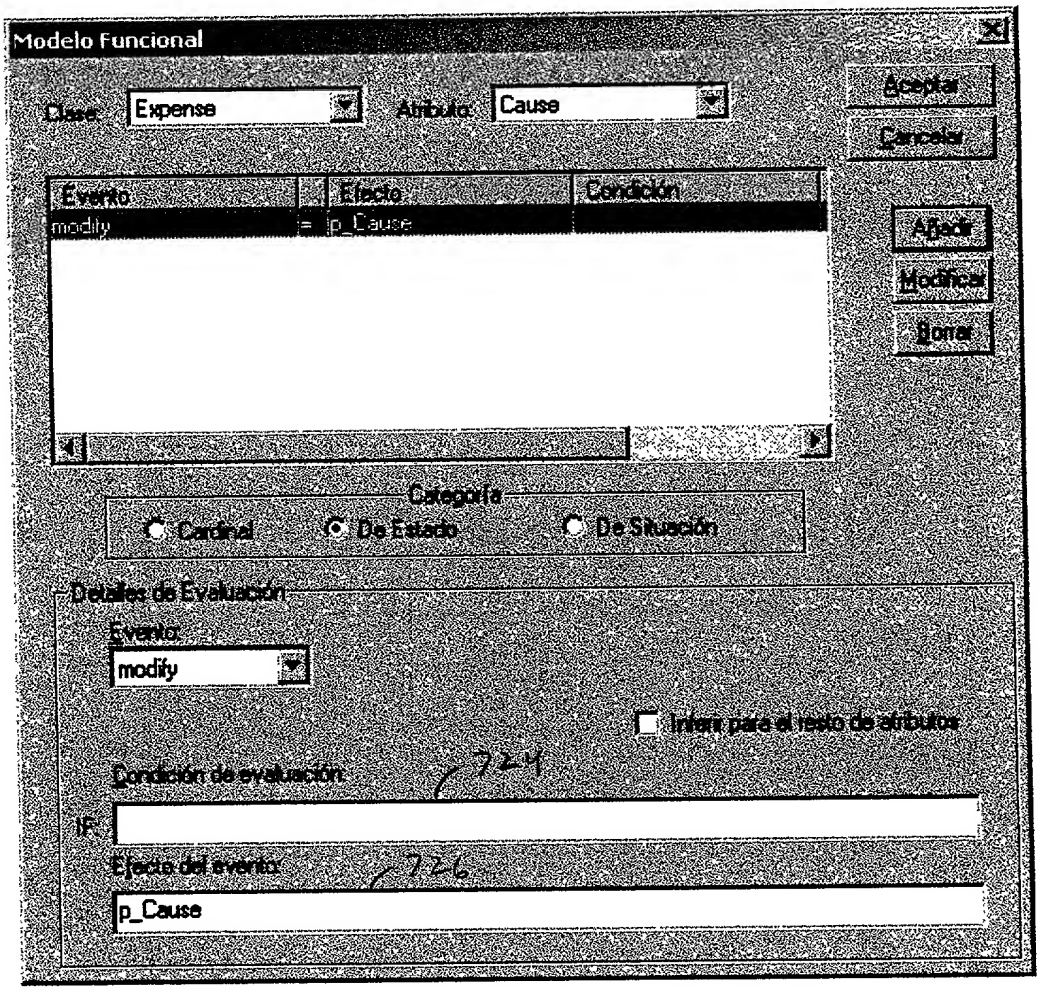
FIG. 13



INTEGRITY CONSTRAINTS OF EXPENSE CLASS

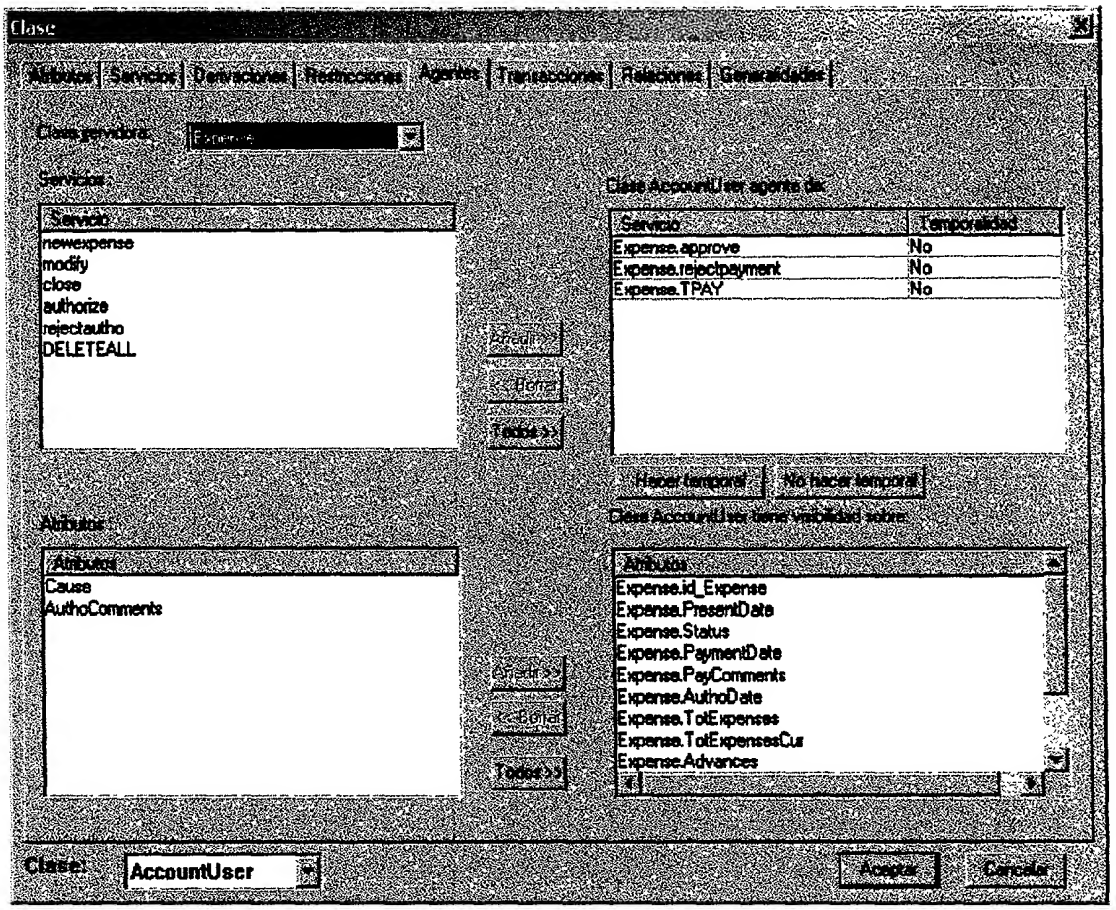
FIG. 14

The value of the attribute "Cause" will be loaded with the value of the argument "p_Cause" of the event "modify" when "modify" was executed.



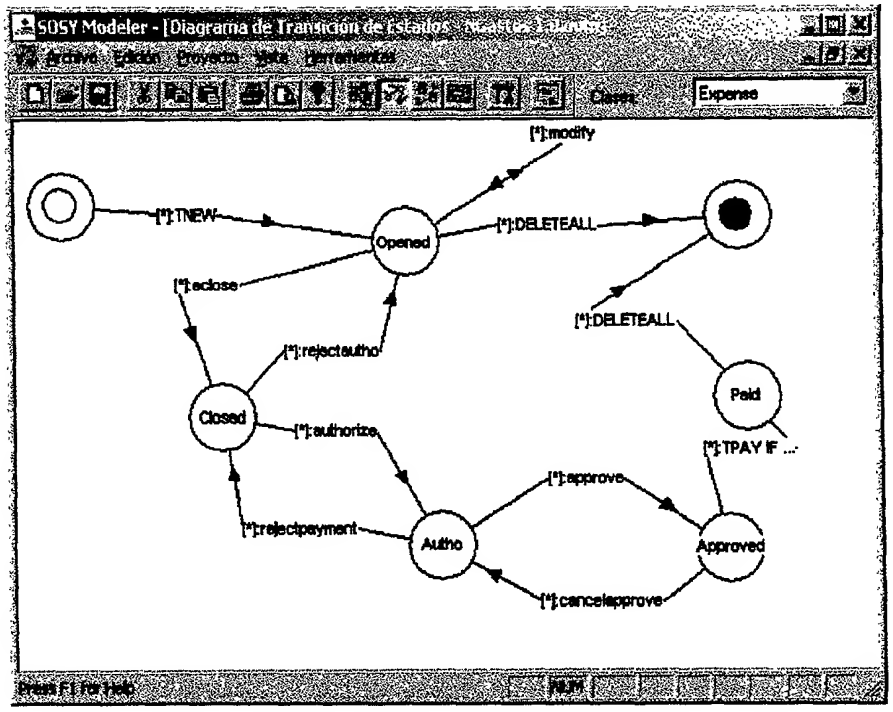
DIALOG BOX TO CREATE EVALUATION OF "CAUSE" ATTRIBUTE WITH THE "MODIFY" EVENT TO FORM PART OF FUNCTIONAL MODEL

FIG. 15



AGENT RELATIONSHIP DIALOG THAT CAN BE USED TO SET WHICH SERVICES "ACCOUNT USER" CAN ACCESS AND VISIBILITY OF CLASS ATTRIBUTES FOR THIS USER

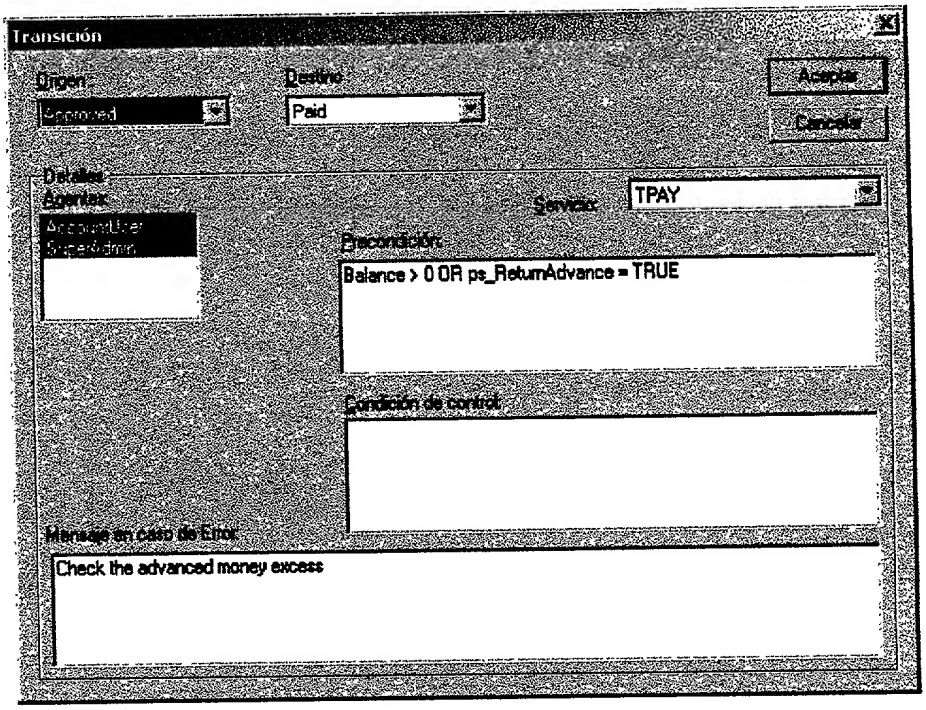
FIG. 16



STATE TRANSITION DIAGRAM FOR CLASS "EXPENSE"

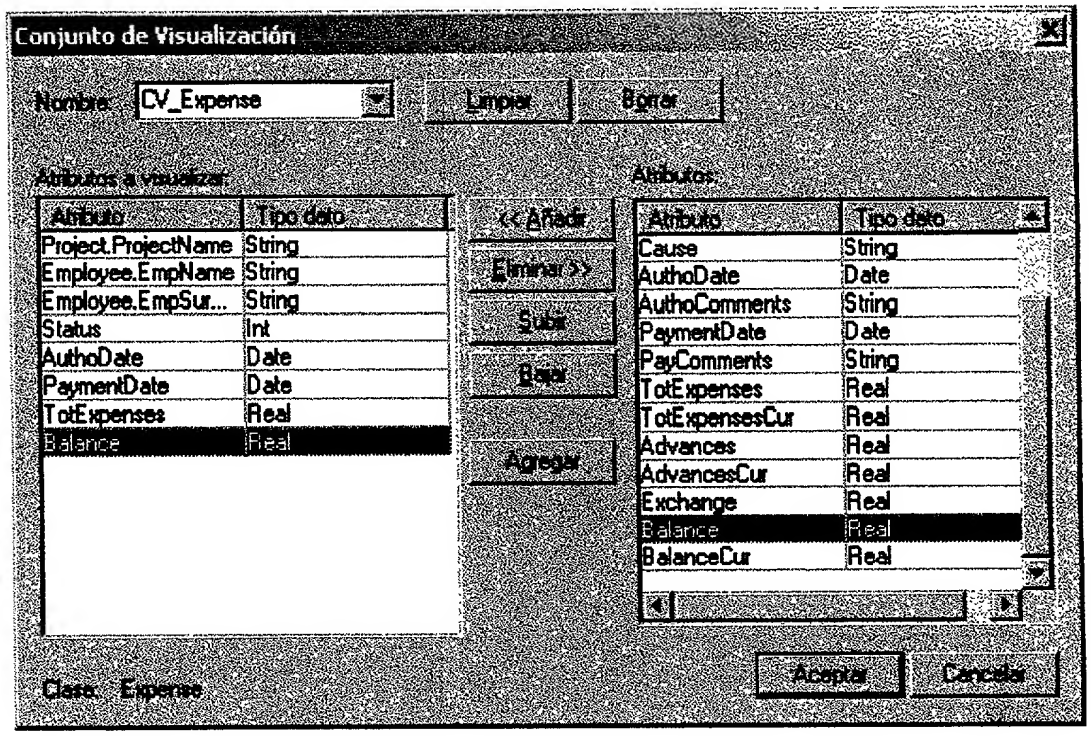
FIG. 17

According to last paragraph of Procedure, if the Advances are greater than total expenses, the system must force the confirmation of the account user. It is expressed as a precondition in the "TPAY" transaction. Next figure shows it.



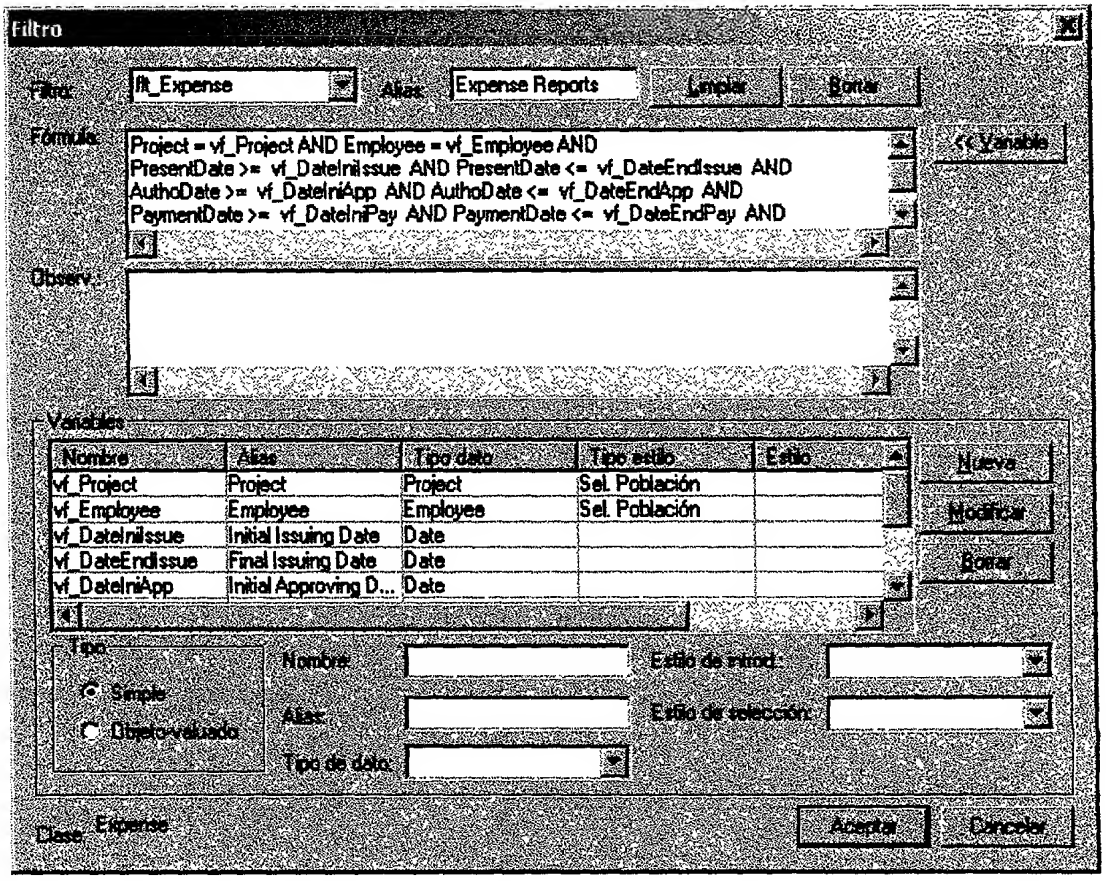
DIALOG BOX TO MODEL PRECONDITION

FIG. 18



DIALOG BOX USED BY SOSY MODELER TO ESTABLISH A SET OF ATTRIBUTES TO BE DISPLAYED FOR THE "EXPENSE" CLASS

FIG. 19



DIALOG BOX USED BY SOSY MODELER TO ESTABLISH THE SEARCHING CRITERIA FOR THE EXPENSE CLASS AND TO ESTABLISH THE FILTER FORMULA TO USE AND THE VARIABLES TO REQUEST THE USER TO ENTER

FIG. 20

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES IN THE DOCUMENTATION GENERATOR TRANSLATOR SUBGENUS WILL PERFORM

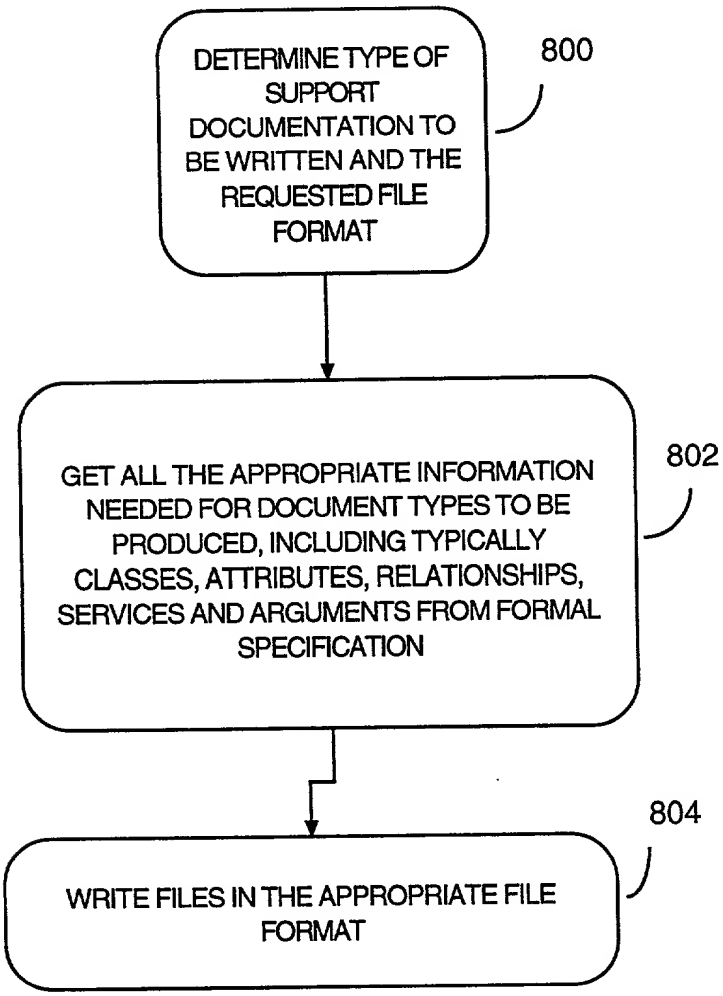


FIG. 21